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Case Report
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Report of a Mammoth Unicystic Ameloblastoma in the Mandible

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Abstract

The present article describes development of a huge ameloblastoma in a 35-year-old Indian male patient. The lesion occurred in the mandible and signifies periodic regular check-up from the dental professionals. Knowledge about existence of such uncommon odontogenic lesions and their diagnosis, clinical features, differential diagnosis and management is highly essential among all dental clinicians.

Keywords: Ameloblastoma, Mandibular Lesion, Odontogenic Tumor, A Giant Tumor, Surgical Excision.

Introduction

Ameloblastoma is a rare odontogenic tumor constituting 1% of total jaw tumors and representing second-most commonly occurring odontogenic tumor derived from odontogenic ectoderm [1]. The word 'Ameloblastoma' consists of two words, with one word derived from the English language word "Amel" meaning "enamel" and the Greek word "Blastos" meaning 'germ.' The most common occurrence is the mandible compared to maxilla and mostly located in the posterior region of the mandible [1]. As they originate from the ectodermal germ layer they consist of the epithelium of ectodermal origin and hence it signifies that, the tumor develops from the cells around the tooth root. Ameloblastomas are benign and slow growing, and sometimes show aggressive behaviour and rarely they transform into malignancy leading to malignant ameloblastoma [1-3]. They always show local aggressive behaviour leading to significant bony pathology. The abnormal cell growth easily infiltrates local tissue mainly the alveolar bone [2]. Therefore, all ameloblastomas require extensive surgical management. However, this tumor is associated with a high propensity for local recurrence even after thorough surgical excision and requires lifelong follow- up for surveillance. Therefore, the present research article was prepared to show the occurrence of a mammoth unicystic ameloblastoma in the posterior region of the mandible in a 35-year-old male Indian patient. The purpose of this paper is also to alert all dental professionals about the possibility of development of odontogenic pathologies in asymptomatic conditions later leading to life threatening situations.

Case Description

The details of the case diagnosed with a huge unicystic ameloblastoma is illustrated in Table 1 (Figure 1).

Table 1: Demographic details of the case with a Mammoth Unicystic Ameloblastoma

Age/ Gender/ Ethnicity	Chief Complaint	Clinical Features	Radiographic Features (Figure 1)	Treatment Provided
35 years Male Indian	Swelling in the left side of the lower jaw since few months	Complete permanent dentition with all third molars erupted. Hard asymptomatic swelling present in the left side of the mandible.	A huge radiolucent lesion extending from left third molar (posteriorly) to the left lateral incisor (anteriorly). Expansion of the bone at the inferior border of the mandible. Root resorption involving all left mandibular molars.	Surgical management

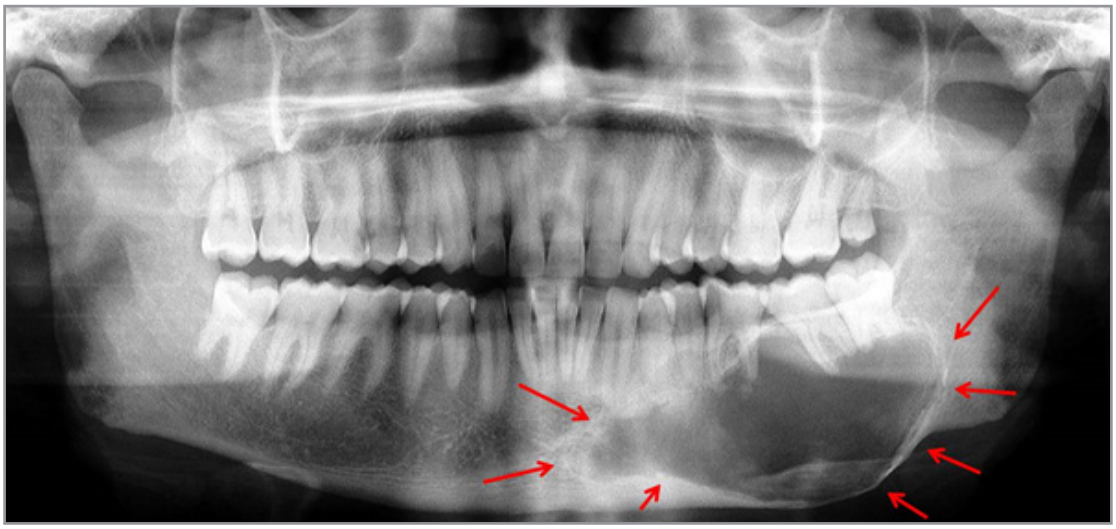

Figure 1: Orthopantograph Radiograph Showing A Huge Unicystic Ameloblastoma In the Left Posterior Region of The Mandible (Red Arrows).

Discussion

Odontogenic pathology including cysts and tumors are sometimes seen in humans and hence it is important to have extensive knowledge on occurrence of such dental pathologies [4-10]. Extensive review of dental history shows that this odontogenic tumor was first recognized in 1827 by Cusack. Later in 1885, a French physician Louis-Charles designated this odontogenic neoplasm as an "adamantinoma." This was again renamed to the present name as "ameloblastoma" in 1930 by Ivey and Churchill [1-3]. Clinically this tumor shows slow and asymptomatic growth and hence accidentally diagnosed following radiographic examination. Therefore, when it is not diagnosed and matures to a more advanced stage, some clinical signs are encountered such as paresthesia, root resorption, mobility of teeth and shift of adjacent teeth. World Health Organization classified ameloblastoma into four types as unicystic, desmoplastic, peripheral and multicystic or solid ameloblastoma [11-13].

The typical characteristics of ameloblastoma is its expansion which is very dangerous for the patients as they usually occur in an asymptomatic and slow way. They may also invade neighbouring structures. In advanced stages, it can affect the tissues and even cause facial dissymmetry, pain, occlusal disorders, otalgia, ulcerations, paresthesia and compromise dental health [12-14]. The management of ameloblastoma depends on four types of ameloblastoma. Unicystic ameloblastomas show similarity to dentigerous cysts in both clinical and radiological aspects. The confirmatory diagnosis is performed using histopathological examination. Unicystic ameloblastomas are less aggressive and have less recurrence rates and also requires less invasive surgery. In contrast, multilocular ameloblastomas require a more aggressive treatment to promote lesion resection including margins. On radiographs, it is observed as a single or multiple radiolucent lesion [14].

For diagnoses of ameloblastomas, various imaging techniques are employed such as panoramic radiographs, computerized tomography imaging and magnetic resonance imaging. Among these, computerized tomography is an important advanced tool for the diagnosis of ameloblastomas. It provides detailed information of cortical bone margins, measuring extension of the lesion, and the possible involvement of neighbouring vital anatomic structures. In addition to these, it also helps obtaining images without risk of overlapping or distortion errors [1-2,11-12].

On histological examination, various patterns have been reported such as nests, islets and strands composed of ameloblastic epithelial cells associated with a fibrous tissue stroma. Very rarely pattern of acanthomatous with granular and basal cells have been reported. Pertaining to treatment aspect of ameoloblastoma, various treatment modalities ranging from curettage to extensive bone resection and the reconstruction of removed part using plates and pins have been suggested in the literature [11-14]. In minor lesions of multicystic ameloblastomas, marginal resection has been suggested with a possible recurrence rate in 15% of cases. A treatment protocol proposed in 2010, suggests that unicystic ameloblastomas should initially be treated with marsupialization, followed by a careful radiological assessment to determine whether the lesion is decreasing or not. However, in larger sized ameloblastomas, total resection of the lesion is performed [12].

Conclusion

As unicystic ameloblastoma most commonly resembles a dentigerous cyst, its careful evaluation using all parameters like, clinical, radiographic, biological and histological features is essential to attain correct diagnosis and also to provide appropriate treatment.

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